

77256, SOV/89-8-2-21/30

Table 3. Radioactive isotopes obtained from enriched raw materials.

RADIOACTIVE ISOTOPE	SOURCE STABLE ISOTOPE	NATURAL CONTENT %	CONTENT IN THE ENRICHED PRODUCT %	RADIOACTIVE ISOTOPE	SOURCE STABLE ISOTOPE	NATURAL CONTENT %	CONTENT IN THE ENRICHED PRODUCT %
Pb ²¹³	S ³²	0,74	EXPERIMENT	J ¹²⁴	Te ¹³⁰	34,49	87,8-94,2
Cu ⁶⁴	Ca ⁴⁴	2,06	90-93	Ba ¹³¹	Ba ¹³⁰	0,101	EXPERIMENT
Ca ⁴⁷	Ca ⁴⁰	0,0033	4,8	Ba ¹³²	Ba ¹³²	0,097	8
Cr ⁵¹	Cr ⁵⁰	4,49	90,6-91,8	Sm ¹⁵³	Sm ¹⁵²	26,63	54,8-84,2
Fe ⁵⁵	Fe ⁵⁴	5,81	82,3-84,8	Eu ¹⁵⁵	Sm ¹⁵⁴	22,73	94,1
Fe ⁵⁹	Fe ⁵⁶	0,34	40	W ¹⁸⁵	W ¹⁸⁴	30,6	76,9-96,3
Ni ⁵⁸	Ni ⁵⁸	67,76	90-97,6	W ¹⁸⁷	W ¹⁸⁶	28,4	77,1-92,3
Ni ⁶³	Ni ⁶²	3,66	86,5	Tl ²⁰⁴	Tl ²⁰³	29,5	84,9-90,2
Cu ⁶⁴	Cu ⁶³	69,09	89,2-96,4	Pb ²⁰⁹	Pb ²⁰⁸	52,3	73,2
Zn ⁶⁵	Zn ⁶⁴	48,89	85-98				
Zn ⁶⁹	Zn ⁶⁴	18,61	86-92,3				
As ⁷⁴	Ge ⁷³	7,8	EXPERIMENT				
Se ⁷⁶	Se ⁷⁴	0,87	30				
Sr ⁸⁶	Sr ⁸⁴	0,56	31-46				
Sr ⁸⁷	Sr ⁸⁴	82-56	99,5				
Zr ⁹⁵	Zr ⁹⁴	17-40	87,2-93,8				
Sn ¹¹³	Sn ¹¹²	0,95	60,6-66,2				
Sn ¹²³	Sn ¹²²	4,71	63,8-77,2				
Cd ¹¹⁵	Cd ¹¹⁴	28,86	88,5-94,9				
Te ¹²⁷	Te ¹²⁶	18,72	76,3				

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the USSR. Science and Technology News

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investigations concerning their possible future industrial consumption. First of all, it is necessary to measure and systematize fundamental physical constants of stable nuclei. They are needed for the establishment of a quantitative theory of the nucleus, for proper calculations of nuclear reactor units, and for the determination of the most promising ways for industrial use of stable isotopes. Until recently, measurements of these constants were basically performed on milligram quantities of enriched stable isotopes, although many experimental methods require samples weighing a few grams or even a few tens of grams. For instance, even in the case of thermal neutrons there are many nuclear constants of stable isotopes (total cross sections, parameters of resonant levels, cross section of radiation capture, etc.) which are not known with sufficient accuracy. There are to date no systematic data about interaction of

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stable isotopes with charged particles. Also important are the possible uses of stable isotopes in nuclear engineering. The case of B^{10} can illustrate the point. Boron in steel is used in reactors to augment its heat-stability and at the same time increase the absorption of thermal neutrons. Nevertheless, the preservation of other technological properties of steel puts a limit of 1-2% on the boron content in the material used. This contradiction was easily removed by utilizing the light isotope B^{10} (see Ref 2) having a large (approximately 4,000 barn) capture cross section for thermal neutrons. All other conditions being equal, this property of B^{10} permitted a fivefold reduction of the boron supplement. There are 3 tables; and 8 references, 6 Soviet, 2 U.S. The U.S. references are: (1) S. Levin, E. von Halle, paper Nr 719 presented by the U.S. at the Second United Nations International Conference on Peaceful Uses of Atomic Energy, Geneva, 1958; (2) Nucl. Sci. and Engng, 4, Nr 3, 357 (1958).

Card 10/10

POTAPOV, S.P.; SAKODYNSKIY, K.I.; BORISOVSKAYA, M.A. red.; VLASOVA, N.A.,
tekhn. red.

[Stable isotopes around us] Stabil'nye izotopy vokrug nas. Moskva,
Gos. izd-vo lit-ry v oblasti atomnoi nauki i tekhn., 1961. 67 p.
(MIRA 14:8)

(Isotopes)

20176

S/089/61/010/003/006/021
B108/B209

21.1320

AUTHOR: Potapov, S. P.

TITLE: Applications of stable boron isotopes

PERIODICAL: Atomnaya energiya, v. 10, no. 3, 1961, 244-252

TEXT: The author gives a brief review of the principal trends in the use of stable boron isotopes. The introduction deals with the factors determining the costs of the stable boron isotope B^{10} . Fig. 1 shows the costs of a material as depending on the B^{10} content. The methods used most frequently in the USSR for the preparation of this isotope are rectification of boron trifluoride and boron trichloride, and chemical exchange in boron trifluoride. In most cases, the same arrangement may be used for the production of B^{10} and B^{11} . The latter, however, is less frequently used and has still to be examined in detail. The costs also depend on the compound from which the required isotope is separated. The author emphasizes the necessity of finding new and more economical ways of obtaining elementary boron. In most cases, the practical use of

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boron isotopes is based upon the differences in their nuclear properties and the particulars of their interaction with neutrons, in particular with thermal neutrons (see Table). The highly ionizing effect of alpha particles and Li^7 nuclei forming through neutron capture by B^{10} recommends this isotope for use in medicine, viz., for treatment of tumors and cancer. In nuclear physics, B^{10} has proved highly valuable for all types of counters, increasing their sensitivity by four to five times, as well as for neutron detectors. It is also used to accelerate radiochemical processes, viz., by adding it to the neutron-bombarded material and thus indirectly introducing highly ionizing particles. For the initiation of gas reactions, the author, together with

V. Gol'danski et al., suggested a source of ionizing particles with a B^{10} surface to secure emission only in the case of external irradiation. In reactor design, B^{10} may be used as a neutron absorber, particularly in control rods (Fig. 3). Small boron additions (several hundredths of one per cent) improve the mechanical properties of steel. B^{10} may be

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Applications of stable boron ...

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introduced into the core of a reactor as a "burning-down addition" in order to level excess reactivity. Such additions were used in the atomic ice-breaker "Lenin." In addition, B^{10} is widely used for shielding materials.

Unlike B^{10} , B^{11} has a very small neutron capture cross section and may be used for slightly neutron-absorbing materials, 'e.g., in order to increase the heat resistance of steel. Thus, the development of

inexpensive and easily accessible materials containing B^{10} and B^{11} , which meet the increased demands on thermal and mechanical properties as well as radiation resistance is of particular interest. There are 4 figures, 1 table, and 40 references: 18 Soviet-bloc and 22 non-Soviet-bloc.

SUBMITTED: December 1, 1960

X

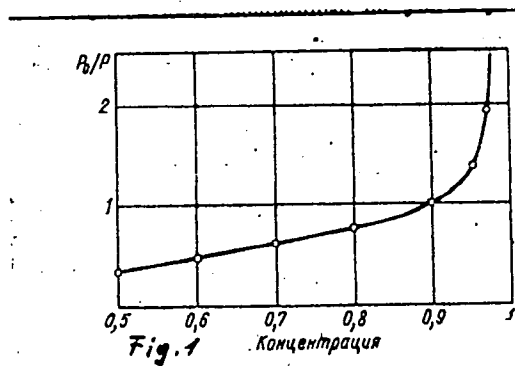
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Legend to Fig. 1: Dependence
of the relative costs of
enriched materials on
concentration. P - costs
of the enriched product;
 P_0 - costs of a product with
90% concentration.



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Applications of stable boron ...

Legend to Table: Principal characteristics of interaction between stable boron isotopes and thermal neutrons. 1) Isotope; 2) content in natural boron, %; 3) cross section of the (n,α) reaction at 0.025 ev, barns; 4) cross section of the (n,γ) reaction at 0.025 ev, barns; 5) energy of gamma radiation, Mev; 6) reaction; 7) remarks; 8) ratio of the cross sections of reactions 1 and 2 from column 6).

1) Изотоп	2) Содержание в естественной боре, %	3) Сечение (n, α)- реакции при 0,025 эв, барн	4) Сечение (n, γ)- реакции при 0,025 эв, барн	5) Энергия γ-излучения, Мэв	6) Реакции взаимодействия с нейтронами	7) Примечание
B ¹⁰	18,5	3820 [13]	0,5 [13]	4,47—11,43 [14]	1) B ¹⁰ (n, α)Li ^{7*} +2,31 2) B ¹⁰ (n, α)Li ⁷ +2,79 3) B ¹⁰ (n, γ) B ¹¹	8) Отношение сечений реакций 1) и 2) $\frac{\sigma_1}{\sigma_2} = 0,925$ [15]
B ¹¹	81,5	—	<50·10 ⁻³ [13]	0,95—5,73 [16]	B ¹¹ (n, γ) B ¹² [16] (T _{1/2} =0,019 сек)	—

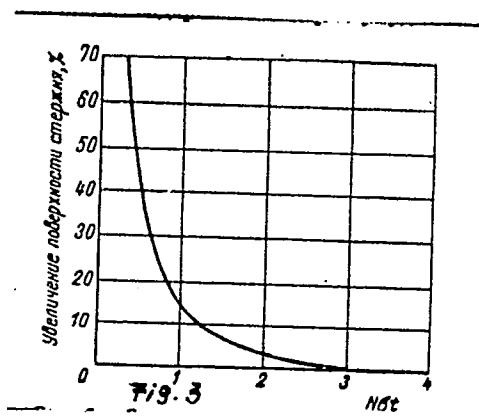
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B108/B209

Applications of stable boron ...

Legend to Fig. 3: Increase in the surface area of the rod (ordinate, %) versus the degree of neutron absorption. N denotes the number of nuclei absorbed by 1 cm^3 of the material, σ the cross section of neutron absorption averaged over the energy spectrum of the neutrons in the reactor, t the thickness of the boron-containing layer on the rod.



Card 6/6

POTAPOV, S.V.

Lower Cambrian iron quartzites in Tuva. Sov. geol. 4 no.3:113-114
Mr '61. (MIRA 14:5)

1. Vsesoyuznyy aerogeologicheskiy trest.
(Tuva Autonomous Province—Quartzites)

POTOSKUYEV, M.N.

Leading at deformation center boundaries. Izv.vys.ucheb.zav.;
chern.met. no.5:61-67 '60. (MIRA 13:6)

1. Ivanovskiy energeticheskiy institut.
(Rolling(Metalwork)) (Deformations(Mechanics))

GRABLEVSKIY, V.N.; KULISH, Ye.Ye.; MATYUSHINA, N.A.; POPOVA, G.L.;
POTAPOV, S.P.; SAVITSKIY, P.S.; TEREKHOVA, V.N.; FRADKIN, G.M.;
LABAZNOV, V.I., red.; VLASOVA, N.A., tekhn.red.

[Isotopes, radiation sources, and radioactive materials; a
catalog] Izotopy, istochniki izlucheniia i radioaktivnye
materialy; katalog. Sost. avtorskim kollektivom: V.N.Grablev-
skii i dr. Moskva, Izd-vo Glav.uprav.po ispol'zovaniiu atomnoi
energii pri Sovete Ministrov SSSR, 1959. 269 p. (MIRA 12:12)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye po ispol'zova-
niyu atomnoy energii.
(Radioactive substances)

POPA, SV. T. G.; KUZNETSOVA, N. I.

Conveying Machinery

New conveyer for assembling working apparatus in the Tashel'mash factory.
Sel'khoz mashina, no. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. UNCLASSIFIED.

POTAPOVA, T. I.

SIGRIANSKIY, A. M., and POTAPOVA, T. I. "Anthracnose of Red Clover,"
Itogi Nauchno-Issledovatel'skikh Rabot Vsesoiuznogo Instituta
Zashchity Rastenii no 1936 Goda, part 2, 1937, pp. 341-344.
423.92 L54I

SOURCE: URA 51-98-53, 15 Dec. 1953.

POTAPOV, V.

Improve the transportation of goods in direct mixed railroad-waterway communications. Rech.transp. 14 no.4:7-9 Ap '56.
(MLRA 9:8)

1. Nachl'nik Glavnog upravleniya gruzovoy raboty i planirovaniya perevozok Inisterstva putey soobshcheniya SSSR.
(Freight and freightage)

POTAPOV, V.

Enthusiasts. Okhr.truda i sots.strakh. 6 no.1:9 Ja '63.

(MIRA 16:1)

1. Literaturnyy sotrudnik gazety "Fridneprovskaya magistral".
(Dnieper Valley—Electric equipment industry—Hygienic aspects)

POTAPOV, V., inzh.-arkhitektor

Choice of a furnace. Sel'.stoi.12 no.12:24-25 D '57.
(MIRA 10:12)
(Heating)

POTAPOV, V.; DERIBAS, A.

~~Organization of freight handling and clerical work in large rail centers.~~
Organization of freight handling and clerical work in large rail centers. Zhel.dor.transp. no.10:9-15 0'47. (MLRA 8:12)

1. General-direktor dvizheniya 3-go ranga (for Potapov) 2. Direktor-polkovnik dvizheniya (for Deribas)
(Railroads--Freight)

PCTAPOV, V.

18669

USSR/RR Freight Transport 4602.0100 May 1947

"Mechanization of Loading Work at Railroad Stations," V. Potapov, Gen-Mr Third Rank, G. Grinevich, Dr Mech Sci, 102 pp

"Zh-d Transport" No 5

Complaint of inadequate mechanization in loading and unloading freight cars. Submits measures to improve situation. In 1945, 17% of freight yards, 38% of approaches and 32.7% of total network mechanized. In 1946 average loading and unloading work mechanized 37%. Currently, average of 7-8% of cars remain unloaded, loading of lumber and building material 10-15% mechanized and unloading

FDB

18669

USSR/RR Freight Transport 4602.0100 May 1947
(Contd)

of some items 5-6% mechanized, and 40% of loading mechanized at enterprises of Ministry of Heavy Machine Building. Gives planned figures for 1947. Photographs of three types of mechanized equipments used at warehouses. Discusses equipment used in loading and unloading different freight.

FDB

18669

POTAPOV, V.

Through the eyes of a motion-picture photographer (to be continued). Av. i kosm. no.1:86-90 Ja '66.

(MIRA 19:1)

POTAPOV, V.

From the Main Freight Administration of the Ministry of Railroads. Inform.list.Glav.gruz.upr. no.1:3-4 '57.

(MIRA 12:10)

1. Nachal'nik Glavnogo gruzovogo upravleniya Ministerstva putey soobshcheniya.

(Railroads--Freight)

ACC NR: AP6011679

SOURCE CODE: UR/0209/66/000/004/0082/0087

AUTHOR: Potapov, V.

ORG: none

TITLE: Cinematography in soviet space technology

SOURCE: Aviatsiya i kosmonavtika, no. 4, 1966, 82-87

TOPIC TAGS: motion picture photography, space program

ABSTRACT:

According to Vladimir Potapov, a motion-picture cameraman, technical motion-picture photography finds wide application for research purposes in Soviet space technology. Potapov works in conjunction with spacecraft and launch-vehicle designers at the space systems design and assembly plant and at the assembly shop at Baykonur Cosmodrome. Potapov has also made several popular films about the cosmonauts and their spaceflights for viewing by the general public. From 1959 to 1965, he kept notes on his work, meetings, and experiences, some of which have

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ACC NR: AP6011679

just been published. The following information has been derived from his descriptions and includes some new insights into Soviet testing and safety procedures.

1. *Film crew.* A crew of motion-picture technicians, working on an assignment basis, is included within the staff organization of the Soviet space program. Each new assignment begins with a meeting with the director of the particular project. He briefs them on the mission objectives, requirements, and their duties. The scope of their work is to film tests of components, equipment, subsystems, and integrated systems during various stages of their development or modification, to assist in the operational checkout of completed components as they are being assembled and tested in various space simulators, to participate in preflight tests at the cosmodrome, and finally, to record the launching procedure. Potapov came to the cosmodrome on an assignment for the first time in 1960 to film the prelaunch and launch operations for Spacecraft-2.* His team consisted of 8 members: a team executive producer, a director, two cameramen, one assistant cameraman, two lighting technicians, and one synchronous filming technician. The producer carried the team's identification papers,

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work orders, food coupons, living-quarter assignment orders, and other necessary documents. Larger teams probably came for later launchings because Potapov mentioned that the workload was extremely heavy and they often went without sleep. They brought with them a great deal of photographic and lighting equipment; for example, at one launch test, they filmed the rocket with 25 motion-picture cameras, using high-speed, regular, and synchronous camera operation. The resulting films are used for research studies, as official records, for publicity stills, and for propaganda purposes.

2. *At the space systems design and assembly plant.*

From an analysis of Potapov's articles, it becomes evident that the film crew is permanently stationed at the design and assembly plant. The spacious, well-lighted workshops of the plant contain a complete collection of satellites, spacecraft, interplanetary probes, and all other vehicles that have been launched into space by the USSR. There are also the original Vostoks and spacecraft that are being readied for future flights. The author participated in many experiments conducted at the plant for testing the performance of new space equipment. One of the experiments was to test a nose-fairing separation device. The test was conducted in an enclosed area; evidently it was a very large building, because the protective net was stretched out at the height of

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a 4-story building with the mockup of a spacecraft and its last stage mounted above it. Several movie cameras positioned at different angles and distances were recording simultaneously during the experiment. After separation, the nose fairing slowly began to rise above the mock-up; it opened out "like the petals of a lotus" and then fell into the net. During separation, the fairing did not touch the spacecraft at any point. Evidently, shop experimentation lasts until performance is acceptable. In another experiment, the operation of an event sequencer for various systems was tested. In the course of a spaceflight, various equipment is jettisoned from the craft as it completes its intended function. To maintain hermetic integrity of the cabin, the dozens of interconnecting powerlines between the cabin and each section are mounted on a special, sealed umbilical connector ("germoplato") and make a clean break during separation of the connector. Cameramen have also participated in the development of landing and ejection procedures, both in shop experiments and outside on water. Testing of the cosmonaut-escape system and fire-extinguishing procedures also required detailed photography. Potapov explains that in case of launch-vehicle malfunction on the launch pad, the cosmonaut with his seat is ejected away from the rocket, while strong jets of water, shooting dozens of stories upward, are played on the rocket. There is so much water discharged that it could fill a

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ACCESSION NR: AP4042114

S/0115/64/000/006/0043/0045

AUTHOR: Potapov, V. A.

TITLE: Automatic frequency control in SHF oscillators

SOURCE: Izmeritel'naya tekhnika, no. 6, 1964, 43-45

TOPIC TAGS: electronic oscillator, SHF oscillator, AFC, AFC in SHF oscillator, AFC in klystron oscillator

ABSTRACT: A scheme for stabilizing the frequency of a klystron oscillator at any specified point of its SHF range, the effect of destabilizing factors on AFC, and experimental data obtained with AFC are reported. The stabilization scheme is based on G. E. Schafer's modulation-and-synchronous-detection method (IRE Trans. on Instrum., 1960, v. 9, no. 2). These experimental results obtained from a 51-I klystron oscillator, a 28IM amplifier (after the mixer), and a D-405-diode modulator are reported: stabilization factor, 50-70; lock-in band at

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ACCESSION NR: AP4042114

9,640 mc, about 40 mc; holding band, approximately equal to the lock-in band; frequency drift, 10^{-5} or less in 2-3 hrs; when the reflector-plate voltage was varied by 60 v, the oscillator frequency (with AFC on) drifted by 5 mc; a 360° -phase shifter with a movable dielectric plate ensured smooth control of the delay. Orig. art. has: 1 figure and 22 formulas.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EC

NO REF SOV: 002

OTHER: 001

Cord 2/2

POTAPOV, V.A.

Phase errors of frequency conversion in phase meters with a
modulation and synchronous signal detection. Izv. tekhn.
no.8:53-55 Ag '63. (MIRA 16:10)

POTAPOV, V.A.

Automatic frequency adjustment of superhigh-frequency oscillators. Izv.
tekhn. no. 6:43-45 Je '64. (MIRA 17:42)

L 18868-63

EWT(d)/BDS/ED-2/EEO-2

AFPTC/ASD/ESD-3

ACCESSION NR: AP3005786

S/0115/63/000/008/0053/0055

AUTHOR: Potapov, V. A.

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TITLE: Phase errors due to frequency conversion in phase meters with modulation and synchronous signal detection

SOURCE: Izmeritel'naya tekhnika, no. 8, 1963, 53-55

TOPIC TAGS: phase meter, phase error, frequency conversion

ABSTRACT: Errors inherent in the double-frequency-conversion method of r-f phase-difference measurements are theoretically considered. Approximating the nonlinear-component characteristics by a parabola, a formula evaluating the maximum frequency-conversion error is deduced with several simplifying assumptions. Its use is illustrated by a numerical example. Orig. art. has: 1 figure and 16 formulas.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: GE

DATE ACQ: 11Sep63
NO REF SOV: 003

ENCL: 00
OTHER: 002

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POTAPOV, V. D.

133-10-7/26

AUTHOR: Smolyakov, V. F., Palinnikov, Ye. S. and Potapov, V. D.

TITLE: Contamination of Ball Bearing Steel by Refining Slag.
(Zagryazneniye Sharikopodshipnikovoy Stali
Rafinirovochnym Shlakom).

PERIODICAL: Stal', 1957, No.10, pp. 893-898 (USSR).

ABSTRACT: Using the method of tagged atoms an attempt was made to establish the intensity of contamination of steel UX15 by refining slag and to determine the influence of exogenous inclusions formed by the emulsification of slag in metal on the metal quality. Steel UX15 was produced in basic arc furnaces operating with solid charge of 55-57 tons. During the oxidation period from 0.26 to 0.52% of carbon was usually removed with a velocity of 0.35%/hr. The metal was deoxidised with coke and then with ground 75% ferrosilicon. Before deoxidation slag contained not less than 2% of calcium carbide. 2.-3 min before tapping aluminium was added (0.4 kg/ton). The metal was tapped with slag containing not more than 0.8% of calcium carbide. After retention in the ladle, steel was bottom poured into 2.8 ton ingots. Teeming conditions are given in Table 1.

Card 1/4 Radioactive Ca^{45} in the form of CaO was introduced into

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Contamination of Ball Bearing Steel by Refining Slag.

slag 30-65 min before tapping. The consumption of Ca^{45} was 355-537 m.curie₄₅ per heat. The uniformity of the distribution of Ca^{45} in slag was tested and found to be satisfactory (Table 2). Before tapping slag samples were taken for chemical analysis (Table 3) and determination of viscosity using a Nekhedzi-Samarin viscosimeter (depth of penetration of slag into a narrow channel). To check on the possibility of purification of steel during bottom pouring, samples of pouring refractories from some heats were taken for radiometric measurements. During teeming of metal of some heats samples from the rising surface of the metal in mould were frozen on to a steel rod. After rolling of the metal from experimental heats in to 120mm rounds or 140 x 140mm squares, templets were cut out corresponding to 80, 60, 40 and 2% of the ingot height (counting from the bottom). Templets were forged to squares 90 x 90mm from which specimens were cut out (as shown in Figure 1) for metallographic investigation, electrolytic separation of non-metallic inclusions and determination of the content of oxygen. Experimental results assembled in tables 4-6 and figures 2,3, indicated that the method used for the determination of the content of exogenous inclusions (emulsification

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Contamination of Ball Bearing Steel by Refining Slag.

of refining slag during tapping) confirmed the possibility of contamination of steel by slag during tapping from an electric furnace. The content of slag inclusions in the rolled product reached in the individual cases 0.001% or about 10% of the total content of stable inclusions in steel UX15 . A direct relationship between the content of exogenous inclusions and the total content of oxide inclusions was established. On tapping with a basic slag of increased viscosity the contamination of steel by non-metallic inclusions is lower than with a fluid slag of similar composition. A part of slag inclusions is removed during teeming in casting refractories and during the filling of ingot moulds. No differences were found in the content of oxide inclusions in steel either from different mould seats or on different levels of the ingot height. The following participated in the work: V.V. Kurganov, V. A. Kamardin, A. N. Porada, E. P. Moskalenko, L. B. Kissina, L. I. Khristoforova and V. I. Kirsanova. There are 6 tables, 3 figures and 6 references, 4 of which

Card 3/4 are Slavic.

CHULKOV, Nikolay Nikolayevich, kand. tekhn. nauk; POTAPOV, V.D., otv.
red.; FROLOVA, Ye.I., red. izd-va; MAKSIMOVA, V.V., tekhn.
red.; MINSKER, L.I., tekhn. red.

[Small asynchronous electric drives for use in mines and means
for regulating them] Asinkhronnyi rudnichnyi elektroprivod ma-
loi moshchnosti i sposoby ego regulirovaniia. Moskva, Gosgor-
tekhizdat, 1961. 162 p. (MIRA 15:10)

(Electricity in mining machinery--Electric driving)
(Electric driving)

EVANS, O.T.; HARVEY, P.H.; POTAPOV, V.D., inzhener, [translator]; FAYBISO-
VICH, I.L., redaktor; NADEINSEKAYA, A.A., tekhnicheskiiy redaktor.

[Automatization of mine hoisting machinery] Avtomatizatsiia shakht-
nykh podzemnykh ustanovok. Perevod s angliiskogo V.D.Potapova.

Moskva, Ugletekhizdat, 1956. 58 p.

(MLRA 9:6)

(Mine hoisting) (Automatic control)

POTAPOV, V. D., Cand Tech Sci -- (diss) "Study of excavator performance under irregular regimes." Mos, 1958. 14 pp (Min of Higher Education USSR, Mos Mining Inst im I. V. Stalin), 120 copies (KL, 16-58, 121)

-70-

POTAPOV, V. G.

Potapov, V. G. "Shock therapy for frostbite," Trudy Krymsk. med. in-ta im. Stalina, Vol. XII, 1948, p. 223-25

SO: U-3850, 16 June 53 (Letopis 'Zhurnal 'nylh Statey, No. 5, 1949)

POTANOV, V. G.

Potanov, V. G. and Kovtun, Z. F. "Novocaine block in appendicular infiltrate," Trudy Kyivsk, med. in-ta im. Stalina Vol. XIII, 1940, p. 227-29.

SO: U-3950, 16 June 53 (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949)

83002
S/181/60/002/008/021/045
B006/B063

24:7700

AUTHORS:

Potemkin, A. Ya., Potapov, V. I.

TITLE:

The Problem of Investigation of Copper - Antimony
Interaction in Germanium²¹

PERIODICAL:

Fizika tverdogo tela, 1960, Vol. 2, No. 8,
pp. 1846 - 1848

TEXT: A preceding paper has shown (Ref. 1) that the two latter elements of the system Ge - Cu - Sb enter into chemical reaction if their concentrations exceed the limit of solubility in solid germanium and the atomic ratio is $\text{Cu:Sb} \approx 2:1$. Cu_2Sb is formed, which crystallizes tetragonally and has six atoms per unit cell. At lower concentrations, the state of impurities has not yet been examined (again with Cu and Sb being present simultaneously). The present paper is a contribution to this problem. The authors studied the behavior of copper in pure and Sb-doped single crystals of germanium. They determined the mobility of the impurity ions at elevated temperatures by a method previously described. The samples were prepared from two series of n-type Ge single

Card 1/3

83002

The Problem of Investigation of Copper - 8/181/60/002/008/021/045
Antimony Interaction in Germanium B006/B063

crystals: 1) pure germanium of a resistivity of 10 - 30 ohm.cm at room temperature (carrier concentration of up to 10^{14} cm^{-3}); 2) sb-doped germanium (impurity concentration of up to $10^{17} \text{ atoms/cm}^3$). All samples had a dislocation density of $10^2 - 10^3 \text{ cm}^{-2}$. They were cut perpendicular to the direction of growth of the single crystal (111) in order to render the impurity distribution along the sample as uniform as possible. The experiments were made on a special apparatus under $10^{-3} - 10^{-4}$ torr. The samples were isothermally tempered by sending a current of 4-10 a at 0.15 - 0.8 v/cm through them. The potential distribution along the samples was measured, and the mobility was determined accordingly. The experiments showed that both in pure and Sb-doped Ge between 540° and 650°C and/or 600° and 625°C a pure drift (shift by X_e) of the copper ions occurred toward the positive electrode in the electric field. The ionic mobility $\mu = X_e/E\tau$, where E denotes the field in the sample, and τ the time for which the sample is placed in the field. The diffusion coefficient is determined from the relation $D = \mu kT/q$. Experimental data are compiled in Tables 1 and 2. The experiments prove that a

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35915
S/148/62/000/002/002/008
E111/E435

18.3v00

AUTHORS: Smolyakov, V.F., Potapov, V.D.

TITLE: Influence of working flux on the contamination of
ball-bearing steel in electro-slag remelting

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy.
Chernaya metallurgiya, no.2, 1962, 56-64

TEXT: In electro-slag remelting developed by the Institut
elektrosvarki im. Ye.O.Patona (Institute of Electric Welding
imeni Ye.O.Paton) a consumable electrode of the material is melted
in a bath of slag in a water-cooled mould. The electrode is
lowered automatically to keep pace with the melting process,
the slag acting as a liquid resistance heater through which fine
droplets of the metal fall. Although much reduced, non-metallic
inclusions are still present in the remelted material. The
function of the slag in this process has not been sufficiently
studied. In the present work the authors give the results of
their investigations on the influence of the type AHΦ-6 (ANF-6)
working flux and of other process factors on the contamination of
types ШХ15СГ (ShKh15SG) and ШХ15 (ShKh15) steels with
Card 1/5

Influence of working flux ...

S/148/62/000/002/002/008
E111/E435

non-metallic inclusions. The authors, with Ye.S.Kalinnikov, have previously shown that the latter can become contaminated by refining slag and emulsifying in it in an arc furnace. The flux is based on CaF_2 and radioactive calcium-45 was used as a tracer. Calcium is negligibly soluble in the steels at the temperatures concerned, so that the activity of steel samples could be used as a measure of inclusions derived from the flux. The experiments were carried out on industrial installations: a type P-909 (R-909) single phase designed by the Institute of Electric Welding imeni Ye.O.Paton and a three phase designed by the "Dneprospetsstal'" Works. Two ingots, 350 kg, 250 mm diameter, of the steel ShKh15SG and four of 700 kg, 300 mm diameter ingots of ShKh15 steel were produced; 130 and 180 mm diameter electrodes were used on the single- and three-phase installations, respectively. For the smaller ingots the working current was 3.6 and 3.8 kA, the corresponding voltage, duration and weight of flux being 50 and 53 V, 125 and 90 minutes, 11 and 11.5 kg respectively. For the larger ingots, voltage was in the range 53 V for one and was varied for the others over a maximum range

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Influence of working flux ...

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E111/E435

of 50 to 56 V. The corresponding currents were 6.0 and 6.0 to 6.9 kA; durations were 185 min to 195 min and flux quantity 21.0 kg. Flux composition was varied over the following ranges: 0 to 3.0 SiO₂, 19.2 to 37.2% Al₂O₃, 0.14 to 0.17% FeO, 0.03 to 0.24 Fe₂O₃, 1.23 to 5.5% CaO, 0.3 to 0.97% MgO, 0.011 to 0.041% S, 57.4 to 76.2% CaF₂. A radioactive Ca⁴⁵ preparation in a glass capsule was introduced when the process had reached a steady state. Slag samples for radiometric analysis were taken at intervals in two experiments and always at the conclusion of the process. Metal samples for checking the macrostructure and for microstructural, electrochemical and radiometric investigation of the amount and composition of non-metallic inclusions were taken for the initial electrodes and during forging of the experimental ingots. Metal quality was assessed using the ГОСТ 801-47 (GOST 801-47) scale. The residues from electrolytic solution of specimens were treated by a published method. Measurements of the activity of the test preparations were periodically checked with a cobalt standard. Errors were calculated using a published equation, Card 3/5

Influence of working flux ...

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E111/E435

measurements with over $\pm 50\%$ error being rejected. The activity of each residue was compared with that of the same amount of slag taken from the level in the mould corresponding to 1 litre of the sample, or at the end of the remelting. The weight P (in g) of working slag present in the metal as inclusions was found from the equation

$$P = \frac{a_{\text{Me}_2\text{O}_3}}{a_s} B_{\text{Me}_2\text{O}_3} + \frac{a_{\text{CaO}}}{a_s} B_{\text{CaO}}$$

where a_{CaO} , a_s are the specific activities of a precipitated calcium and the working slag (imp/min); $a_{\text{Me}_2\text{O}_3}$ is that of trivalent-element hydroxides which on precipitation sorbed part of the mother liquor with its calcium ions; $B_{\text{Me}_2\text{O}_3}$ and B_{CaO} are the weights of the "sesquioxide" precipitate and the precipitated calcium, respectively. For the 250 mm diameter ingots of ShKh15SG steel, flux inclusions were found to be not over $4.8 \times 10^{-5}\%$ of the weight of metal or 1% of the total quantity of the inclusions determined by the electrochemical method. The 300 mm diameter ingots of ShKh15 steel contained no

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Influence of working flux ...

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E111/E435

flux inclusions although their total non-metallic inclusions content was double that of the 250 mm ingot. As the mould diameter and specific energy consumption rise, contamination of metal by non-metallic inclusions increases appreciably. Flux contamination of ball-bearing steel remelted in ANF-6 flux can be ignored, the main factors in contamination being the content and nature of non-metallic inclusions in the electrode, electrical conditions of the remelting process and composition and physico-chemical properties of the flux. The authors recommend that research should be concentrated on the study and improvement of these factors. There are 4 figures and 5 tables.

ASSOCIATION: Zaporozhskiy zavod "Dneprospetsstal'" im. A.N.Kuz'mina
(Zaporozhe "Dneprospetsstal'" Works imeni
A.N.Kuz'min)

SUBMITTED: May 22, 1961

Card 5/5

X

POTAPOV, V.G. (Khabarovsk); ZHAMOV, V.A. (Yaroslavl'); KOTIY, O.A.
(Yaroslavl'); NEKRASOVA, (Ussuriysk); ASEKMIROV, V.M. (Yakutsk)

Selected problems and special methods for their solution. Mat.
v shkole no.5:87-88 S-0 '63. (MIRA 16:11)

VDOVENKO, V.M.; KOVALEVA, T.V.; POTAPOV, V.G.

Salting-out action of the metal nitrates of the second group of
the periodic table in the extraction of uranyl nitrate with diethyl
ether. Radiokhimiya 4 no.1:34-39 '62. (MIRA 15:4)
(Uranyl nitrate) (Salting-out)

GERNIK, V.V.; POTAPOV, V.G.

Using the magnetic prospecting method in calculating a volcanic
layer in the Polar Urals. Geofiz. razved. no.6:59-72 '61.
(MIRA 15:4)

(Ural Mountain region--Rocks, Igneous) (Copper ores)
(Magnetic prospecting)

34623

S/186/62/004/001/002/008
E075/E436

214200

AUTHORS: Vdovenko, V.M., Kovaleva, T.V., Potapov, V.G.

TITLE: Salting-out action of nitrates of the metals in the second group of the periodic system of elements during extraction of uranyl nitrate with diethylether

PERIODICAL: Radiokhimiya, v.4, no.1, 1962 34-39

TEXT: The authors determined distribution coefficients for uranyl nitrate between diethylether and aqueous solutions containing metal nitrates to obtain more accurate data than those available at present. Experiments were carried out at 0, 15 and 25°C. Concentration of uranyl nitrate was 0.0254 g equiv per 100 g of solution. The results obtained show that the values of distribution coefficients for the solutions containing Zn, Cd and Sr nitrates differ considerably from those published previously by V.M. Vdovenko and T.V. Kovaleva (Ref. 6 and 7). This is explained by the use of a more satisfactory method of analysis and also by the fact that in the previous determinations, with Zn, Cd and Sr nitrates as salting-out agents, the water of crystallization in these compounds was not taken into account. For Ca and Mn
Card 1/3

Salting-out action of nitrates

S/186/62/004/001/002/008
E075/E436

nitrites the distribution coefficients obtained in the present work were similar to those determined previously (Ref. 6 and 7) with the exception of the values at high concentration regions of the salts. The disagreement in the latter case is, however, within the experimental error. The distribution coefficients for the solutions containing Li, Na, K, NH_4 , Fe and Al nitrates agree with those published previously (Ref. 6 and 7). It was shown that at the different temperatures the effectiveness of the salting out action of the nitrates decreases in the following order

$\text{Mg}(\text{NO}_3)_2 \succ \text{Zn}(\text{NO}_3)_2 \succ \text{Cd}(\text{NO}_3)_2 \succ \text{Ca}(\text{NO}_3)_2 \succ \text{Sr}(\text{NO}_3)_2 \succ \text{Ba}(\text{NO}_3)_2$

The radii of the cations in the above salts increase in the same order. It was shown that for the metals in the major and minor sub-groups of the second group in the periodic system the distribution coefficients depend on the radius of the cation of a salting-out compound. The distribution coefficients for the solutions containing Zn and Cd nitrates were checked at 0°C for the molar fractions of the salts of 0.04. The results obtained agree well with those extrapolated from the curves relating

Card 2/3

SLOTVINSKIY-SIDAK, N.P., kand.tekhn.nauk; Prinimali uchastiye:

POTAPOV, V.I., inzh.; KUZNETSOVA, N.P., inzh.

Vanadium recovery directly from iron-vanadium (titanium-magnetite)
concentrates. Stal' 22 no.1:9-13 Ja '62. (MIRA 14:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii.

(Vanadium)

(Hydrometallurgy)

POTAPOV, V.I., inzh.

Displacement of a coal seam and wall rocks under the influence
of stoping. Nauch. soob. IGD 15:78-82 '62. (MIRA 17:2)

S/149/62/000/003/004/011
A006/A101

AUTHORS: Slotvinskiy-Sidak, N. P., Potapov, V. I.

TITLE: Vanadium extraction from converter slags

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya,
no. 3, 1962, 100 - 106

TEXT: For the purpose of intensifying the process of slag roasting and to raise the degree of vanadium transfer into soluble compounds in extracting vanadium from converter slags, the authors studied roasting in a fluidized bed of granulated vanadium charges with addition of sylvinit or sodium sulfate. The effect of temperature and duration of roasting upon the degree of V_2O_3 and FeO oxidation in the granules was determined. Experimental roasting of granules was performed on a four-zone fluidized-bed reactor. As a result of laboratory tests and experiments on a generalized installation of the "Mekhanobrchermet" Institute at Krivoy Rog, a new system was developed of extracting vanadium from slags including refining of the slag, granulation in the presence of alkaline admixtures, drying of the granules in a fluidized bed, classification of dry granules, their

Card 1/2

10. [illegible]

brief [illegible]

1. Instructions [illegible]

ACC NR: AP6032515

SOURCE CODE: UR/0413/66/000/017/0090/0090

INVENTOR: Potapov, V. I.

ORG: none

TITLE: Ferrotransistor trigger with a computing input. Class 42, No. 185551

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 90

TOPIC TAGS: transistor, trigger circuit, squareness ratio, computing input

ABSTRACT: The proposed ferrotransistor trigger circuit with a computing input uses two ferrite cores which have a common input winding and a transistor. The base winding of the transistor passes through both cores, while the positive feedback winding passes through one of the cores. To improve the reliability and expand the logical possibilities of the trigger, it contains cores with different squareness ratios and an auxiliary transistor. The base winding and the positive feedback winding of the latter are wound around a core with a higher squareness ratio in reverse to the corresponding windings of the first transistor. Orig. art. has: 1 figure. [Translation]

Card 1/2

UDC: 681.142.07

ACC NR: AP6032515

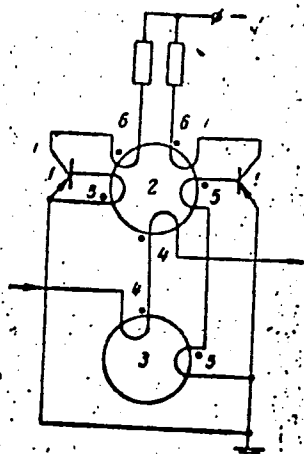


Fig. 1. Ferrotransistor trigger.
1—Transistors; 2—high squareness ratio core; 3—low squareness ratio core; 4—input windings; 5—base windings; 6—collector windings

SUB CODE: 09/ SUBM DATE: 26Apr65/

Card 2/2

PANCHENKO, V.I.; FEDOSOV, N.M.; POTAPOV, V.I.

Attachments for the URS-50 I X-ray apparatus for texture studies.
Zav. lab. 31 no.9:1150-1151 '65. (MIRA 18:10)

1. Moskovskiy institut stali i splavov.

FEDOSOV, N.M.; PAPCHENKO, V.P.; POTAPOV, V.I.

Development of a deformation texture in cold-rolled transformer steel. Izv. vys. ucheb. zav.; Chern. met. 8 no.9:108-111 '65.
(MIRA 18:9)

1. Moskovskiy institut stali i splavov.

SLOTVINSKIY-SIDAK, N.P.; POTAPOV, V.I.; AVERIN, P.I.

Precipitating pure and chemically pure vanadium pentoxide
from alkaline solutions. TSvet. met. 38 no.5:67 My '65.
(MIRA 18:6)

6. IR-4, M.I.; POTAPOV, V.I.

Work practices of a gas rescue station. Bezop. truda v prom.
B no.12:41-42 D '64. (MIRA 18:3)

1. Master gazospasatel'noy stantsii Magnitogorskogo metallurgicheskogo kombinata (for Keira). 2. Inzhener-inspektor Magnitogorskoy rayonnoy gornotekhnicheskoy inspektsii (for Potapov).

KHODOT, V.V., doktor tekhn. nauk, red.; BOBROV, I.V., kand. tekhn. nauk, red.; RUDCHENKO, V.P., red.; TABAKOV, A.G., red.; SHCHUKIN, V.R., red.; KULIKOV, A.P., red.; ANDROSOV, M.S., otv. red.; SHEVYAKOV, F.D., otv. red.; POTAPOV, V.I., otv. red.; FREYSLER, Yu.S., otv. red.; VINOGRADOVA, G.V., red. izd-va; IL'INSKAYA, G.M., tekhn. red.; BOLDYREVA, Z.A., tekhn. red.

[Control of sudden outbursts in coal mines; proceedings of the scientific and technical conference held in Donetsk in December 1960] Bor'ba s vnezapnymi vybrosami v ugol'nykh shakhtakh; sbornik trudov nauchno-tekhnicheskogo soveshchaniia, sostoiavshegosia v gor. Donetske v dekabre 1960 g. Moskva, Gosgortekhnizdat, 1962. 602 p. (MIRA 15:9)

1. Institut gornogo dela imeni A.A.Skochinskogo (for Khodot).
 2. Kombinat "Donetskugol'" (for Rudchenko).
 3. Gosudarstvennyy komitet pri Sovete Ministrov Ukrainiskoy SSR po nadzoru za bezopasnym vedeniyem rabot v promyshlennosti i gornomu nadzoru, Donetskiiy okrug (for Shchukin).
- (Coal mines and mining--Safety measures)

SLOTVINSKIY-SIDAK, N.P.; POTAPOV, V.I.

Vanadium recovery from converter slags. Izv.vys.ucheb.zav.; tsvet.
met. 5 no.3:100-106 '62. (MIRA 15:11)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii. (Vanadium) (Slag)

S/133/60/000/004/005/000
A054/A026

AUTHORS: Slotvinski-Sidak, N.P., Candidate of Technical Sciences;
Potapov, V.I., Engineer

TITLE: Calcination of Vanadium Slags in a Fluidized Bed

PERIODICAL: Stal', 1960, No. 4, pp. 327 - 329

TEXT: The conventional method of calcination in rotary kilns is a complex process involving three phases (solid phase-slag, liquid phase-alkaline additives and the formation of vanadates, gaseous phase - the oxygen of the air). About 88 - 90% of vanadium is converted into soluble compounds and 70 - 80% of this quantity is recovered by water. In order to simplify the process and to recover more vanadium research was carried out on calcination in a fluidized bed with a charge consisting of crushed and granulated vanadium-containing slag as available in the Chusovskiy zavod (Chusovoy Plant) and alkaline additives (sylvinitite, potassium chloride or sodium sulfate). After crushing and removing the ferrous residue, the composition of the slag was as follows (%): V_2O_5 9.4; SiO_2 23.8; CaO 0.8; MgO 1.65; Al_2O_3 2.5; FeO 40.0; Cr_2O_3 9.3; MnO 4.8; TiO_2 6.2; Fe_{met} 2.1; P_2O_5 0.1

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Calcination of Vanadium Slags in a Fluidized Bed

S/133/60/000/004/005/010
A054/A026

The laboratory equipment used in the tests consisted of a quartz column 1 m high having an inner diameter of 60 mm, into which a horizontal fireclay plate was fitted. In this plate caps with lateral apertures were mounted. In the lower part of the column an electrical heating coil was installed to preheat the air flowing to the fluidized bed to 600 - 700°C. In order to obtain the calcination temperature of 750 - 900°C, the column was mounted on a silite furnace. Temperature was controlled by a chromel-aluminum thermocouple with galvanometer. The rate of the air flow in the column was about 1.3 - 1.6 m/sec. Before granulating, the charge was crushed to a size of 0 - 0.07 mm, which promoted the conversion of vanadium into soluble compounds, then it was dried until a humidity of 4 - 5% was attained. Optimum yield was obtained when calcinating granules of 0.5 - 3.0 mm size. Above this size the yield of soluble vanadium compounds decreased. The tests showed that the decomposition of alkaline additives was limited on account of the oxygen diffusion at the place of reaction. Calcination in a fluidized bed speeds up the decomposition of alkaline additives. An addition of sylvinites reduces the reaction time to 15 - 20 min, i.e., it is several times quicker than when applying periodical stirring. The best results with regard to the amount of additives were obtained when adding 8 - 10% of alka

Card 2/3

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Calcination of Vanadium Slags in a Fluidized Bed S/133/60/000/004/005/010
A054/A026

line additives (NaCl ; Na_2SO_4). This corresponds to a ratio of $\text{Na}_2\text{O} : \text{V}_2\text{O}_5 = 0.30 \div 0.45$. The graph shown in Figure 2 represents the rate of vanadium recovery of grains calcinated with water and a 7%-solution of sulfuric acid with the addition of 10% sylvinite and 10% sodium sulfate solutions as a function of the duration and the temperature of calcination. The optimum calcination temperature for charges with sylvinite was at 800°C and with sodium sulfate at 850°C . Over 880°C the grains are sticking together, below 800°C the decomposition of the alkaline additives and the recovery of vanadium-containing ores is incomplete. A maximum (97 - 98%) yield can be obtained when calcinating with sodium sulfate; 94 - 95% of this quantity will be extracted by water. In the solid residue 0.3 - 0.6% of V_2O_5 is contained after extraction. The tests showed that upon crushing the charge, as a result of the close contact between the components and the mixing of the grains in the fluidized bed, the calcination of the vanadium containing slag was accelerated and transformed into soluble compounds in a quantity 5 - 7% greater than that obtained by conventional methods. Preliminary granulation of the charge decreased the cycles of extraction and rendered possible the application of pulps prepared in high-powered centrifuges. There are 2 figures. ✓

ASSOCIATION: TsNIICHM

Card 3/3

KUZNETSOV, S.P.; FOTAPOV, V.I.

Mechanization of limestone charging into cupolas. Lit.proizv.
no.11:40 H '61. (MIRA 14:10)
(Cupola Furnaces--Equipment and supplies)

POTAPOVA, O.I.; SOKOLOVA, V.A.

Lake Tikshozero and Lake Engozero as commerical fishing sites.
Trudy Kar.fil.AN SSSR no.13:3-32 '58. (MIRA 13:5)
(Tikshozero, Lake--Fisheries)
(Engozero, Lake---Fisheries)

ZOLOTAREV, V.I.; PEKSHEV, Yu.A.; AVSENEV, Yu.M.; KAPRANOV, I.A.; KISVYANTSEV, L.A.; SHVETSOV, N.I.; TELEGIN, Ya.I.; POTAPOV, V.I.; KISVYANTSEV, L.A.; ZYKOV, A.A.; NETRUSOV, A.A.; SENIN, V.P.; MAKSIMOVA, A.P.; NIKOLAYENKO, Zh.I.; VOLKOV, N.V.; KALASHNIKOV, A.A.; PLAKSIN, S.V.; POPOV, N.N.; KARSHINOV, L.N.; YAKIMOVA, T.A.; BASHKANIKHIN, I.K.; KETKOVICH, A.Ya.; SHALASHOV, V.P.; VORONKOV, F.N.; VEKSHIN, G.K.; CHISTYAKOV, M.A.; IVANOV, N.I., red.; SLADKOVSKIY, M.I., red.; LEPNIKOVA, Ye., red.; MOSKVINA, R., tekhn.red.

[Economic development of the people's democracies] Razvitie ekonomiki stran narodnoi demokratii; obzor za 1957 g. Pod red. N.I. Ivanova i dr. Moskva, Izd-vo sots.-ekon.lit-ry, 1958. 610 p. (MIRA 12:7)

1. Moscow. Nauchno-issledovatel'skiy kon'yunktorny institut.
(Economic conditions)

U. TAPPOV, V.I.

24(0); 5(4); 6(2) PHASE I BOOK EXPLOITATION SOV/2215
 Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni
 D.I. Mendeleeva
 Referaty nauchno-issledovatel'skikh rabot; sbornik No. 2 (Scientific
 Research Abstracts; Collection of Articles, Nr 2) Moscow,
 Standartgiz, 1958. 139 p. 1,000 copies printed.
 Additional Sponsoring Agency: USSR. Komitet standartov, mer i
 izmeritel'nykh priborov.
 Ed.: S. V. Reshetina; Tech. Ed.: M. A. Kondrat'yeva.
 PURPOSE: These reports are intended for scientists, researchers,
 and engineers engaged in developing standards, measures, and
 scales for the various industries.
 COVERAGE: The volume contains 128 reports on standards of measure-
 ment and control. The reports were prepared by scientists of
 institutes of the Komitet standartov, mer i izmeritel'nykh
 priborov pri Sovete Ministrov SSSR (Commission on Standards,
 Measures, and Measuring Instruments under the USSR Council of
 Ministers). The participating institutes are: VNIM -
 Vsesoyuznyy nauchno-issledovatel'skiy metrologii imeni D.I.
 Mendeleeva (All-Union Scientific Research Institute of Met-
 rology imeni D.I. Mendeleeva) in Leningrad; Sverdlovsk branch
 of the institute, imeni Vsesoyuznyy nauchno-issledovatel'skiy
 institut metrologii imeni D.I. Mendeleeva in Chelovek
 (All-Union Scientific Research Institute of Metrology imeni
 D.I. Mendeleeva) in Moscow; Gosudarstvennyy institut mer i
 izmeritel'nykh priborov (Moscow State Institute of Measures
 and Measuring Instruments) October 1, 1955; VNIIPRI -
 Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh
 i radiotekhnicheskikh izmereniy (All-Union Scientific
 Research Institute of Physicotechnical and Radio-engineering
 Measurements) in Moscow; IZMIMP - Kharkovskiy gosudarstvennyy
 institut mer i izmeritel'nykh priborov (Kharkov State Institute
 of Measures and Measuring Instruments); and NIMIP - Novosil-
 (Kharkov gosudarstvennyy institut mer i izmeritel'nykh priborov
 (Kharkov State Institute of Measures and Measuring Instru-
 ments)). No personalities are mentioned. There are no references.
 Prusa, K.V., and V.I. Potapov (VNIIPRI). Printing Chronograph
 of the PKN-2 Type with a Measuring Accuracy of 0.001 Second 39
 Potapov, V.I. (VNIIPRI). Apparatus of the UPS-2 Type for
 Automatic Feeding of Time Signals 40
 Yashin, A.D., and V.K. Potapov (VNIM). Frequency Converter
 for Receiving Rhythmic Time Signals on the Chronoscope by the
 Continuous Readout Method 41
 Tsvetichuk, S.S. (VNIM). Receiving Rhythmic Time Signals on
 a Chronoscope with a Synchronous Motor Fed by a 1016,(6)-cycle
 Source 42
 Tsvetichuk, S.S., and B.A. Kamochkin (VNIM). Improving the
 Synchronous Chronoscope 43
 Kamochkin, B.A. (VNIM). Instrument for Receiving Electrical
 Pulses From Contactless Chronometers 44
 Card 9/27

POTEMKIN, A.Ya.; POTAPOV, V.I.

Investigation of the interaction of copper and antimony in germanium.
Fiz. tver. tela 2 no.8:1846-1848 Ag '60. (MIRA 13:8)

1. Institut metallurgii im. A.A. Baykova, AN SSSR.
(Copper) (Antimony) (Germanium)

PEKSHEV, Yu.A.; LENSKIY, B.V.; AVSENOV, Yu.M.; MILONOV, V.S.; KISVYANTSEV, L.A.; TELEGIN, Ya.I.; POTAPOV, V.I.; NETRUSOV, A.A.; ZYKOV, A.A.; KUDIN, B.M.; MAKSI-MOVA, A.P.; NIKOLAYENKO, Zh.I.; VOLKOV, N.V.; SHEVETSOV, N.I.; PLAKSIN, S.V.; POPOV, N.N.; KARSHINOV, L.N.; YAKIMOVA, T.A.; SHALASHOV, V.P.; VISYANIN, Yu.L.; KRASNOV, L.V.; PUSENKOV, N.N.; IVANOV, N.I., red.; ZOLOTAREV, V.I., red.; SLADKOVSKIY, M.I., red.; LEPNIKOVA, Ye., red.; KOROLEVA, A., mladshiy red.; NCGINA, N., tekhn. red.

[Economic development of the people's democracies; survey for 1959]
Razvitie ekonomiki stran narodnoi demokrati; obzor za 1959 god. Pod
red. N.I. Ivanova i dr. Moskva, Izd-vo sotsial'no-ekon. lit-ry, 1960.
305 p. (MIRA 14:6)

1. Moscow. Nauchno-issledovatel'skiy kon'yukturnyy institut.
(Europe, Eastern--Economic conditions)

ZOLOTAREV, V.I.; AVSENEV, Yu.M.; KAPRANOV, I.A.; KISVIANTSEV, L.A.; PEKSEV,
Yu.A.; SHVETSOV, N.I.; TELEGIN, Ya.I.; POTAPOV, V.I.; KISVIANTSEV,
L.A.; ZYKOV, A.A.; NERUSOV, A.A.; SENIN, V.P.; MAKSIMOVA, A.P.;
NIKOLAYENKO, Zh.I.; VOLKOV, N.V.; KALASHNIKOV, A.A.; FLAKSIN, S.V.;
POPOV, M.N.; KARSHINOV, L.M.; YAKIMOVA, T.A.; BASHKANIKHIN, I.K.;
KETKOVICH, A.Ya.; SHALASHOV, V.P.; VORONKOV, F.N.; VEKSHIN, G.K.;
CHISTYAKOV, M.A.; IVANOV, N.I., red.; SLADKOVSKIY, M.I., red.;
LEPHNIKOVA, Ye., red.; MOSKVINA, R., tekhn.red.

[Development of the economy of the people's democracies; a survey
for 1957] Razvitie ekonomiki stran narodnoi demokratii; obzor za
1957 g. Pod red. N.I. Ivanova i dr. Moskva, Izd-vo sotsial'no-ekon.
lit-ry, 1958. 610 p. (MIRA 12:2)

1. Moscow. Nauchno-issledovat. kon'yunktturnyy institut.
(People's democracies) (Economic conditions)

L 20015-06 EWT(44)/EWP(1) INT(4) JB

ACC NR: AP0011317

SOURCE CODE: UR/0363/66/002/003/0461/0463

AUTHOR: Kharakhorin, F. P.; Kuznetsova, Ye. S.; Potapov, V. I.;
Glukhov, A. A.

ORG: none

TITLE: Relation between mobility and concentration of carriers in
indium arsenide

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 3,
1966, 461-463

TOPIC TAGS: indium compound, arsenide, indium arsenide, semiconductor
single crystal, electron mobility, carrier concentration

ABSTRACT: Variations of Hall mobility at different carrier (electron) concentrations ($n = N_D + N_A$) in the $4 \cdot 10^{15} - 10^{17}/\text{cc}$ range have been studied at 300K in indium arsenide, as one of the most promising AIIIbV compounds. The theoretical plot of mobility versus n was calculated using the Brooks formula for uncompensated ($N_A = 0$) and compensated materials which cover concentration regions with nondegenerated and weakly degenerated states, respectively. Comparison was made of the calculated data with the experimental data from literature and with the authors' own data. The latter were obtained with single

Card 1/2

UDC: 546.682'191:537.311.33

L 20610-66

ACC NR: AP6011317

crystals grown either by oriented crystallization or by Czochralski-Gremmelmayer technique. Most of the data for the samples grown by the first technique ($n = 3 \cdot 10^{16} - 8 \cdot 10^{16}/\text{cc}$ and mobility = 29,700—22,000 $\text{cm}^2/\text{v}/\text{sec}$) were in agreement with the calculated data. Data obtained with the samples grown by Czochralski technique ($n = 5 \cdot 10^{16} - 10^{17}/\text{cc}$ and mobility = 24,300—20,000 $\text{cm}^2/\text{v}/\text{sec}$) were somewhat lower and the literature data were considerably lower than theoretical. The discrepancy between theoretical and some of the experimental data was attributed to a variable degree of compensation by impurities. Orig. art. has: 2 figures and 3 formulas. [JK]

SUB CODE: 20/ SUBM DATE: 12Jul65/ OTH REF: 008/ ATD PRESS: 4225

Cord 2/2. *sb*

TELEGIN, Yaroslav Ivanovich; POTAPOV, Vladimir Ivanovich

[Agriculture in the Chinese People's Republic] Sel'skoe
khoziaistvo Kitaiskoi Narodnoi Respubliki. Moskva, Znanie,
1958. 31 p. (Vsesoiuznoe obshchestvo po rasprostraneniui
politicheskikh i nauchnykh znani. Seria 3. No. 34)
(MIRA 12:6)

(China--Agriculture)

L 174C7-66 EWT(m)/EWG(m)/EWP(t)/ETC(f) IJP(c) RDW/JD
 ACC NR: AP6907247 SOURCE CODE: UR/0363/60/002/002/0245/0248

AUTHOR: Kharakhorin, F. F.; Glukhov, A. A.; Kuznetsova, Ye. S.; Potapov, V. I. 51

ORG: none

TITLE: Some properties of tellurium doped indium and gallium arsenides 27

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 2, 1966, 245-248

TOPIC TAGS: semiconducting material, gallium arsenide, indium compound, indium arsenide, single crystal, electric property, activated crystal, tellurium activator

ABSTRACT: Electron carrier concentration in relation to Te dopant content in the charge and Hall mobility of electrons in relation to the carrier concentration have been studied in indium arsenide and gallium arsenide single crystals grown by the Czochralski-Gremmelmayr technique and, in the case of GaAs, by oriented crystallization. This latter technique was used to exclude interference of Si acceptor impurity (from the quartz container) with electrical characteristics of GaAs. In the Czochralski process, 99.999% Te was introduced directly into the melt. Hall coefficient and resistivity were measured at 300K. In both indium and gallium arsenides, carrier concentration increased with the increase in Te content of the charge up to a certain value ("saturation" point), then leveled off. However, the "saturation" point was reached with ten times higher Te content in InAs than in GaAs.

UDC: 546.682'191+546.681'191+546.24

Card 1/2

L 17407-66

ACC NR: AP6007247

Consequently, the limit (maximum) carrier concentration was about an order of magnitude higher in InAs than in GaAs ($\sim 2 \times 10^{19}$ versus 3.1×10^{18} at/cc). These data were in satisfactory agreement with the literature. Presumably, the "saturation" in carrier concentration was reached at a point when Te atoms form electrically inactive Te-Te bonds. The Hall mobility in both arsenides studied displayed a similar pattern of gradual decrease with increased concentration. A wide dispersion of mobility data at a given carrier concentration for GaAs crystals prepared by Czochralski technique and by oriented crystallization was explained by the compensating effect of the uncontrollable acceptor impurity. Orig. art. has: 5 figures. [JK]

SUB CODE: 20 SUBM DATE: 12Jul65/ ORIG REF: 002/ OTH REF: 007/ ATD PRESS: 4206

Pure metal 44,18

Card 2/2

L 32043-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6013335 SOURCE CODE: UR/0383/66/002/004/0582/0584

AUTHOR: Kharakhorin, F.F.; Kuznetsova, Ye. S.; Glukhov, A.A.; Potapov, V.I. 25
β

ORG: none 16 21

TITLE: Purification of arsenic by sublimation

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 4, 1966, 582-584

TOPIC TAGS: arsenic, sublimation, metal purification

ABSTRACT: A process and the corresponding equipment have been developed for purifying arsenic by sublimation. Usually, one or two sublimations are performed, impurities of low vapor pressure such as copper, iron, and aluminum being thus removed. More sublimations are required to remove impurities having a substantial vapor pressure (zinc, cadmium, sulfur, selenium, tellurium). The process avoids contamination of the arsenic by eliminating its transfer from one ampoule to another. Radioactivation analysis has shown that after 4-5 sublimations, for a threefold decrease in the total impurity content, the amount of sulfur decreased by a factor of 6 — 10. Arsenic obtained after five sublimations was used to synthesize indium arsenide with a carrier concentration of $4 \times 10^{16} \text{ cm}^{-3}$ and a mobility of $29,000 \text{ cm}^2/\text{V sec}$ at 300K, which also indicates that the

Card 1/2 UDC: 546.19

POTAPOV, V.I., polkovnik meditsinskoy sluzhby

Selection of types of medical stretchers for ship's equipment. Voen.
med. zhur. no.2:53-57 # '59. (MIRA 12:7)

(MEDICINE, MILITARY AND NAVAL

stretcher selection for ship's equipment (Rus))

FEDOSOV, N.M.; PAPCHENKO, V.I.; POTAFOV, V.I.

Effect of technological lubricants on the development of a
deformation texture in cold rolled transformer steel. Izv.
vys. ucheb. zav.; Chern. met. 8 no.11:80-82 '65.
(MIRA 18:11)

1. Moskovskiy institut stali i splavov.

5(4)

AUTHORS:

Potemkin, A. Ya., Potapov, V. I.,
Petrov, D. A.

SOV/20-127-6-31/51

TITLE:

A Contribution to the Study of Copper Ion Mobility in
Germanium

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 6, pp 1256-1258
(USSR)

ABSTRACT:

In the beginning the insufficient and partly contradictory data about the state of the Cu-atom in Ge are mentioned (Refs 1-4). Therefore the mobility (electrodifffusion) of the Cu-ion in n-germanium at 500-680° was investigated. The plane surface of a sample, that was cut out of a Ge-monocrystal was electrolytically covered by a copper coat of 10 μ thickness. In vacuum (10^{-3} to 10^{-4} torr) the sample was inserted into a circuit (ammeter type M-340, rheostat and rectifier type VSA-6M) of 0.5-1 v/cm and 4-10 a. After disconnection and cooling the potential line at the intersection plane of the sample was measured. As shown by figure 1 this line proceeds linear for samples without copper, whereas for copper-coated samples the linearity is disturbed at the edges by the diffusion of Cu-ions.

Card 1/2

A Contribution to the Study of Copper Ion Mobility in Germanium SOV/20-127-6-31/51

The effect of the thermal and electric diffusion is unidirectional at the negative charged copper plane, but is opposite directed at the positive charged one. Hence a different depth of penetration at the surfaces follows, and the electrodiffusion rate of the copper ions, which were negative charged in the case under review, was determined according to this difference (Table 1). Figure 2 represents the dependence of the diffusion on temperature. Measuring results, which disagree with the data given by C. S. Fuller and J. D. Struthers (Ref 5), are due to the different temperature ranges in which the measurements were made. The scientists mentioned used temperatures above 700° , where the Cu-ions are positively charged. The authors thank L. S. Milevskiy for advice and V. S. Zemskov for Ge-monocrystals made available to them. There are 1 figure, 2 tables, and 5 references, 2 of which are Soviet.

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR (Institute of Metallurgy imeni A. A. Baykov of the Academy of Sciences, USSR)

PRESENTED: April 20, 1959, by I. P. Bardin, Academician

SUBMITTED: April 20, 1959
Card 2/2

LIPKIN, D.S.;BUKHANETS, P.S.;POTAPOV, V.I.

Lowering the resistance of the heating system of PK-49 coke ovens.
Koks i khim. no.3:30-33 '57. 9mlra 10:5)

1. Teplotekhstantsiya (for Lipkin). 2. Magnitogorskiy metallurgicheskiy
kombinat (for Bukhanets and Potapov).
(Coke ovens)

POTAPOV, V.K.

4

✓ Negative ion formation on the slits of mass spectrometers.
 S. B. Kuvshinov and V. K. Potapov. *Doklady Akad. Nauk S.S.S.R.* 193, 449-52 (1968). Neg. ions with sharp peaks at masses 79 and 81 were observed when the mass spectrum of CH_3Br was studied. These ions were proven to be formed by the capture of 2 electrons while passing through the analyzer slit. The neg. Br ion yield was found to be independent from the ionizing electron energy. The potential of formation of the pos. and neg. Br ion was the same within the limit of accuracy of measurements (± 0.3 v.).

PH

W. M. Sternberg

Shub (1)

Category : USSR/Electronics - Gas Discharge and Gas-Discharge Instruments

H-7

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1703

Author : Kupriyanov, S.Ye., Tikhomirov, M.V., Potapov, V.K.

Inst : Phys.-Chem. Inst., Moscow

Title : Decay of Positive Ions Upon Collision with Molecules

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 3, 569-570

Abstract : An investigation was made of several washed-out peaks in mass spectra of CO_2 , CO , CH_2Br_2 , CH_2I_2 , C_2H_2 , and C_2H_4 at ion energies of 2500 ev, electron energies of 70 ev, and an electron beam current of 0.5 ma. These peaks result either from the decay of ions upon collision with molecules and atoms, or from the decay of metastable ions. Results show that the probability of the decay of CO^+ with formation of C^+ is greater than with the formation of O^+ , this being in agreement with the affinity of the C and O atoms to electrons. In addition to the effect of the affinity, the difference in the probabilities of decay of CH^+ and CH_2^+ with formation of C^+ at various gases, is explained by the difference in the number of particles that break away during the dissociation. The decay probability increases with increasing electron energy (up to 140 ev) and with increasing energy of the primary ions. Bibliography, 11 titles.

Card : 1/1

Potapov, V.K.
APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R001

USSR/ Physical Chemistry - Molecule. Chemical Bond

B-4

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7168

Author : Kupriyanov, S.Ye., Tikhomirov, M.V., and Potapov, V.K.

Title : Disintegration of Positive Ions on Collision with Molecules

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, Vol 30, No 3, 569-570

Abstract : The disintegration of ions accelerated up to 2,500 v caused by collisions with molecules of the residual gas in the analyzer of a type MS-1 mass spectrometer has been investigated. The ions formed by the disintegration have a fractional apparent mass M^* ($M^* = M_1^2/M_2$, where M_1 and M_2 are the masses of the ions before and after disintegration). The fractional peaks produced by the disintegration of CO^+ , CO_2^+ , CH^+ , and CH_2^+ formed by the dissociation ionization of CO , CO_2 , C_2H_2 , C_2H_4 , CH_2Br_2 , and CH_2I_2 were investigated.

Card 1/2

- 14 -

POTAPOV, V.K.

56-7-66/66

AUTHOR
TITLE

KUPRIYANOV, S.Ye., POTAPOV, V.K.

The Decay of H_2^+ , HD^+ and D_2^+ Ions on the Occasion of a Single Colli-

sion with Hydrogen-, Deuterium-, and Air Molecules

(Raspad ionov H_2^+ , HD^+ , i D_2^+ pri odnokratnykh stolknoveniyakh s mo-

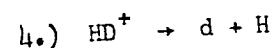
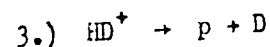
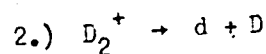
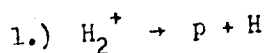
lekulami vodoroda, deyteriya i vczdukha. Russian)

Zhurnal Eksperim. i Teoret. Fiziki 1957, Vol 33, Nr 7, pp 311 - 312
(U.S.S.R.)

PERIODICAL

ABSTRACT

If H_2^+ , HD^+ , and D_2^+ ions which were accelerated up to 3000 v, are sent through hydrogen, deuterium, and air (gas pressure $5 \cdot 10^{-4}$ torr), these ions decay as a result of a single collision with the gas molecules. The relative probability q_1 , q_2 , q_3 , q_4 of the decays



was determined as follows:

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APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R001

Hydrogen
deuterium (82% D)
air

q_1	q_2	q_3	q_4
0,9	1,0	0,4	0,9
1,3	1,0	0,4	
1,1	1,0	0,4	1,0

(With 1 table and 4 Slavic references).

ASSOCIATION

Physical-Chemical Institute im. L.Ya. Karpov
(Fiziko-khimicheskiy Institut im. L.Ya. Karpova)

PRESENTED BY
SUBMITTED
AVAILABLE

30.4.1957
Library of Congress

Card 2/2

Петрапов, В.К.

4

2201.

DISINTEGRATION OF POSITIVE IONS IN COLLISION WITH
MOLECULES. S. E. Kuprianov, M. V. Tikhomirov, V. K.
Petrapov, and P. Ia. Karpova (Physico-Chemical Inst.). Soviet Phys. JETP **3**, 453-61(1956) Oct. (In English), Zhur.
Ekspit. i Teoret. Fiz. **30**, 569-70(1956) Mar. (In Russian)

Broad peaks observed in the mass spectra of compounds
whose centers of gravity do not coincide with the integral
mass numbers were investigated in the study of the disinte-
gration of positive ions in collision with molecules. (F.S.)

POTAPOV, V.K.

KUPRIYANOV, S.Ye.; DZHAGATSPANYAN, P.V.; POTAPOV, V.K.

Mass spectrometric analysis of mixtures containing tetrachloroethane,
trichloroethylene, and isomers of dichloroethylene. Khim.prom.
no.5:274-277 J1-Ag '57. (MIRA 10:12)

(Mass spectrometry)
(Ethane--Analysis)
(Ethylene--Analysis)

Potapov V.K.

7
Mass spectrometric methods of analysis of mixtures of
trichloroethane/trichloroethylene and trichloroethylene iso-
mers. S. E. Kupriyanov, R. V. Dzhabatanyan, and V.
K. Potapov. Khim. Prom. 1957, 2/4-7. The use of the
Russian-built mass spectrometer MS-1 is described. In
analysis the exponential scanning method of Tal'roze (C.A.
51, 7134k) and Dekatron and A. Lyubimova (C.A. 51,
7841b) were used and the max. errors for standard binary
mixts. were 2.9% abs., and for ternary mixts. they varied
between 0.07 and 1.6% abs.
V. M. Sterberg

Distr: 4E4j/4E3d/
 4E2c (3)

6
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 3

99

5(3)
AUTHORS: Levina, R.Ya., Sharabov, Yu.S., Potapov, V.K. SOV/55-58-5-31/34
TITLE: Cyclopropanes and Cyclobutanes. IV. A Cleaning Method for Arylcyclopropanes Which Have Been Obtained According to the Kizhner Method. Short Note. (Tsiklopropany i tsiklobutany. IV. Metod ochistki ariltsiklopropanov, poluchayemykh po reaktsii Kizhnera. Kratkoye soobshcheniye)
PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 5, pp 201 - 204 (USSR)
ABSTRACT: It was stated that phenylcyclopropane changes for no temperature under the influence of 2,4 - dinitrobenzenesulfonylchloride, while propenylbenzene forms a crystalline substance with the combination mentioned above. This fact was used in order to develop a method for purifying phenylcyclopropane from propenylbenzene. - There are 9 references, 5 of which are Soviet, and 4 American.
ASSOCIATION: Kafedra organicheskoy khimii (Chair of Organic Chemistry)
SUBMITTED: July 28, 1958

Card 1/1

LEVINA, R.Ya.; SHABAROV, Yu.S.; POTAPOV, V.K.

Cyclopropanes and cyclobutanes. Part 4: Method for purification of arylcyclopropanes, produced by the Kizhner reaction. Vest.Mosk.un. Ser.mat.,mekh.,astron.,fiz.,khim. 13 no.5:201-203 '58. (MIRA 12:4)

1. Kafedra organicheskoy khimii Moskovskogo gosudarstvennogo universiteta.

(Cyclopropane)

TUNITSKIY, N.H.; TIKHOMIROV, M.V.; KUPRIYANOV, S.Ye.; KOLOTYRKIN, V.M.;
GUR'YEV, M.V.; POTAPOV, V.K.

Studies in the field of mass spectrometry. Probl.fiz.khim.
no.1:122-128 '58. (MIRA 15:11)

1. Laboratoriya adsorbtsionnykh protsessov Nauchno-
issledovatel'skogo fiziko-khimicheskogo instituta im.
Karpova.

(Mass spectrometry)

POTAPOV, V. K., Cand of Chem Sci — (diss) "Investigation of the Reaction of an
Electron Shock in a Gas Phase by Means of the Quasimonokineticization of Electrons,"
Moscow, 1959, 12 pp (Physical-Chemical Institute im L. Ya. Karpov) (KL, 5-60, 124)

ПОТАПОВ, В.К.

PHASE I BOOK EXPLOITATION 507/4356

Problemy fizicheskoy khimii i tpyd., vyp. 2 (Problems in Physical Chemistry: Transactions of the Institute, no. 2). Moscow, Goskhimizdat, 1959. 202 p., 1,000 copies printed.

Editorial Board: Ya. M. Varslavsky, Doctor of Chemical Sciences;
D. S. Shchegolev, Doctor of Chemical Sciences; V. A. Naryin,
Academician; Y. M. Kolobayev, Doctor of Chemical Sciences
(Resp. Ed.); V. S. Melovskiy, Academician; G. Ya. Chudakov,
Doctor of Chemical Sciences; V. M. Chudakov (Editorial Secretary);
of Chemical Sciences; V. S. Chernikov (Editorial Secretary);
Candidate of Chemical Sciences; Zai. I. A. Nyamnikov, Tech.
Ed.; Ye. O. Shipuk.

PURPOSE: This collection of articles is intended for physical chemists.

COVERAGE: The collection is the second issue of the Transactions of the Scientific Research Institute of Physical Chemistry of the A. N. Lebedev Institute. It contains 17 articles which review

Penkin, M. I., N. M. Norozov, V. M. Pyzhov (deceased), L. O. Apol'skaya, L. A. Lukatskaya, and V. A. Deniskina. The oxidation of ammonia over a nonplatinum catalyst

ZAKHAROV, V. A., S. A. KHAMATULIN, Ye. I. GIL'BERG,
 Z. A. KHAMATULINA, I. M. ROZENTAL, A. Ye. AIN,
 I. A. KHAMATULINA, M. A. SLEPYANOV, and V. M. CHERNOMIRNICHENKO. 2
 Kinetics of decomposition, and the explosion of azobenzene.
 HORIKUCHI, JUNZO (Japan). How to Find the Kinetic Equation
 of a Reversible Reaction 3

Kolozovskii, Ya. M. The Effect of the Specific Adsorption of Anions on the Kinetics of Hydrogen Evolution and the Structure of the Metal-Solution Boundary

Yanitskiy, Ya. M. The Nature and Mechanism of Electro-
philic Hydrogen Exchange
Zolotarev, V. Crystallochemical Data on the Nature of
the Mutual Effect of Atoms

~~Reactions of~~ Investigation of the Effect of Inter-
molecular Interaction on the Ultraviolet Absorption Spectra
of Aromatic Compounds

Stalin, V. I., V. S. Kuznetsov and E. P. Osmont. Investigation of Equilibrium in the System Alcohol-Aluminum at High Temperatures and the Dependence of the Free Energy of Self-Formation on Its Composition and Structure. 11

1. Bratkovskiy, A. M., V. I. Dzhuravskiy, L. A. Delyagin, L. I. Belykh, and V. S. Ryabukhin. Study of the Speed of Partic-
ular and Generalized Cylindrical Resonator with Co⁶⁰ as a Power-
ful Source of γ Radiation

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Photochemical Reactions
 Robert N. A. S. Partition-Chemical Effects in Solid
 Inorganic Salts

Moskowitz, M., A. F. Green, and R. V. DeBorjaevylin.
Rationalization of Collection of Bionics
Resistant to the Yearly Bacteria, and L. I. Kuznetsov.

Reaction of the Peroxide of Sulfur Oxidation in an Aqueous Solution under the Action of Radiation

L. I. Kuznetsov, (Chernobylskiy), Ye. V. Barilko, L. I. Yatsinskaya, P. N. Kostrov, and M. A. Prokhorov. Dzh. Fiz. Khim., 1966, 40, 12, 2453-2456. (Russian)

Shirahata, Y. A., and G. A. Gol'deff. The Problem of the Reaction of Phenol with Aqueous Solutions of Low Molecular Weight Compounds. *Chem. Abstr.* 1960, 54, 12090.

Phase Composition of the System H_2O - $NaNO_3$ - $NaOH$ at Low Temperatures

5(4)

AUTHORS:

Potapov, V. K., Vasil'yev, V. G., Tunitskiy, N. N. SOV/20-126-3-43/69

TITLE:

The Ionization and Dissociation of the Molecules of n-Octane and n-Nonane by Monoenergetic Electrons (Ionizatsiya i dissotsiatsiya molekul n-oktana i n-nonana monoenergeticheskimi elektronami)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 3, pp 612-615 (USSR)

ABSTRACT:

In the introduction to the present paper investigations carried out by V. L. Tal'roze and Ya. L. Frankevich on the determination of the affinity of some molecules are mentioned (Ref 4). In the present paper the formation of fragment ions and the excitation of molecule ions by monoenergetic electrons is investigated. This is done by investigating the occurrence of fragment- and molecule ions of n-octane, n-octane-2D₁, and n-nonane-5D¹³. Measurements were carried out in a special mass spectrograph, and for obtaining the monoenergetic electrons a method developed by R. E. Fox (Ref 6) was used. Tables 1 and 2 show the potentials of molecule- and fragment-ions of the type $C_nH_{2n+1}^+$ and $C_nH_{2n}^+$ occurring in this mass spectrograph, and two diagrams show the ion flux of molecule- and fragment ions in dependence on electronic energy. From these

Card 1/2

The Ionization and Dissociation of the Molecules of
n-Octane and n-Nonane by Monoenergetic Electrons

SOV/20-126-3-43/69

results the schemes for the formation of the fragment-ion $C_nH_{2n+1}^+$
and of the fragment-ion $C_nH_{2n}^+$ from n-octane are then obtained.

Finally, the authors thank M. V. Tikhomirov for his help and
evaluation of results, as well as M. V. Gur'yev for the synthetic
production of n-octane-2D₁ and n-nonane-5C¹³. There are 3 figures,
2 tables, and 10 references, 3 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im.
L. Ya. Karpova (Scientific Physico-chemical Research Institute
imeni L. Ya. Karpov)

PRESENTED: February 27, 1959 by S. S. Medvedev, Academician

SUBMITTED: February 18, 1959

Card 2/2

POTAPOV, V.K.; VASIL'YEV, V.G.; TUNITSKIY, N.N.

Investigation of the ionization and dissociation of n-octane and n-nonane molecules by means of bombardment with "quasi-monokinetic" electrons. Probl.fiz.khim. no.2:146-162 '59.
(MIRA 13:7)

1. Laboratorii stroeniya molekul i adsorbtsionnykh protsessov Nauchno-issledovatel'skogo fiziko-khimicheskogo instituta imeni L.Ya.Karpova.
(Octane) (Nonane) (Electrons)

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B001/B064

5 5300

AUTHORS: Shabarov, Yu. S., Levina, R. Ya., Potapov, V. K.,
Osipov, A. M., and Treshchova, Ye. G.

TITLE: Cyclopropanes and Cyclobutanes. XIV. Phenyl Cyclopropanes
With Substituents in the Para Position of the Benzene Cycle

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 12,
pp. 3874-3876

TEXT: In previous papers (Refs. 1-4) the authors reported on the effect of the nature of aryl radicals upon the reactivity of the three-membered cycle linked with it. Thus, it was found that polymerizability strongly increases under the action of $AlCl_3$ in the following order: phenyl cyclopropane < p-tolyl cyclopropane < p-anisyl cyclopropane (Ref. 2). The three-membered cycle which opens readily in phenyl cyclopropane (Ref. 3), p-tolyl cyclopropane, p-anisyl cyclopropane (Ref. 4) under the action of mercury salts, is stable in p-nitrophenyl cyclopropane (Ref. 1). To render these observations more complete, it is necessary to develop a method of synthesizing phenyl cyclopropane with various substituents in the benzene cycle. p-aminophenyl cyclopropane which could be easily obtained by

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